PATENT
Customer No. 22,852
Attorney Docket No. 05725.0830-00
Application No.: 09/765,675

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Véronique DOUIN et al.

Application No.: 09/765,675

Filed: January 22, 2001

For: NANOEMULSIONS COMPRISING AT LEAST ONE AMPHIPHILIC LIPID, AT LEAST ONE OIL, AND AT LEAST ONE CATIONIC POLYMER, AND USES THEREOF

Group Art Unit: 1617

Examiner: G. Yu

11/07/02

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

APPEAL BRIEF

In support of the Notice of Appeal filed August 9, 2001, the period for response to which having been extended to November 9, 2002, by the accompanying petition and fee, and pursuant to 37 C.F.R. § 1.192, Appellants present in triplicate their brief accompanied by a check in the amount of $ 320.00 for the fee under 37 C.F.R. § 1.17(c).

This appeal is in response to the final rejection of claims 1-83 which are set forth in the attached Appendix. If any additional fees are required or if the enclosed payment is insufficient, Appellants request that the required fees be charged to our Deposit Account No. 06-0916.

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I. REAL PARTIES IN INTEREST

L'Oréal is the assignee of record as indicated by the assignment to L'Oréal, which was recorded in the US Patent and Trademark Office on May 2, 2001, at Reel 011759, Frame 0451. Thus, L'Oréal is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellants know of no other appeal or interference that will directly affect, be directly affected by, or have a bearing on the decision of the Board of Patent Appeals and Interferences in this appeal.

III. STATUS OF CLAIMS

Claims 1-83 are pending in this application. No claim has been allowed. As indicated in the final Office Action dated February 12, 2002, the claims have been finally rejected as follows:

(1) Claims 1-19, 21, 22, 30-62, and 68-83 have been finally rejected under 35 U.S.C. § 103(a) over European Patent No. 0 842 652 A1 to *Restle et al.* ("*Restle*") in view of U.S. Patent No. 5,135,748 to *Ziegler et al.* ("*Ziegler*");

(2) Claims 23-29 and 63 have been finally rejected under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler* as applied to claims 1-19, 21, 22, 30-62, and 68-83 above and further in view of European Patent No. 0780 114 A1 to *Simonnet* ("*Simonnet*");

(3) Claim 20 has been finally rejected under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler,* further in view of *Simonnet,* as applied to claims 1-19, 21-63, and 68-83 above, and further in view of U.S. Patent No. 5,716,418 to *Matzik et al.* ("*Matzik*"); and

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(4) Claims 64-67 have been finally rejected under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler,* further in view of *Simonnet,* further in view of *Matzik,* as applied to claims 1-63 and 68-83 above, and further in view of the Abstract of JP 10338899 to *Decoster et al.* ("*Decoster*").

IV. STATUS OF AMENDMENTS

No claims have been amended in response to or subsequent to the final Office Action dated February 12, 2002.

V. SUMMARY OF THE INVENTION

The present invention relates to novel and unobvious oil-in-water nanoemulsions comprising oil globules with an average size of less than 150 nm comprising at least one oil, at least one amphiphilic lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

One embodiment of the present invention is directed to an oil-in-water nanoemulsion comprising oil globules with an average size of less than 150 nm comprising at least one oil, at least one amphiphilic lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

Other embodiments include compositions comprising the nanoemulsion, such as compositions for caring, washing, and/or making up a keratin material, and cosmetic make-up-removing compositions for a keratin material comprising the nanoemulsion. Other embodiments include non-therapeutic care processes for a keratin material comprising applying the nanoemulsion, processes for thickening oil-in-water emulsions.

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Yet another embodiment is directed to an oil-in-water nanoemulsion comprising oil globules with an average size of less than 150 nm comprising at least one oil, at least one amphiphilic lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

As discussed in the specification at page 1, the use of oil-in-water emulsions are known in the field of cosmetics and in the field of dermopharmacy, for example, for the preparation of cosmetic products. In particular, nanoemulsions comprising amphiliphilic lipids are known. Disadvantages with the nanoemulsions of the prior art comprising nanoemulsions are experienced, however, in that they are fluid. As discussed at page 3 of the specification, thickeners for aqueous media are also known. However, when certain polymeric thickeners are used in nanoemulsion-containing compositions, the resulting compositions may tend to exhibit problems in properties including stability and transparency, for example. At the time the present invention was filed, therefore, thickening systems which could conveniently thicken, or even gel, a composition in the form of an oil-in-water nanoemulsion with minimal influence on the cosmetic properties of the composition were desired.

Appellants have discovered that oil-in-water nanoemulsions comprising oil globules with an average size of less than 150nm comprising at least one oil and at least one amphiphilic lipid can be thickened with at least one cationic polymer. The cationic polymer can be chosen from water-soluble and water-dispersible cationic polymers comprising at least one hydrophobic block and at least one hydrophilic block.

According to the present invention, the presence of at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block in an oil-in-

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water nanoemulsion may improve the thickening, the transparency, and the stability of compositions comprising the inventive nanoemulsions on storage. For example, Appellants have demonstrated that the thickening, the transparency, and the stability of a nanoemulsion comprising at least cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block (Quatrisoft LM 200), at least one oil, and at least one amphiphilic lipid is greater than that of a nanoemulsion in which the at least cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block is replaced with the same amount of Carbopol Ultrez, a crosslinked acrylic acid homopolymer. *See* Example 1 at pages 49-51. Accordingly, Appellants have shown the unpredictability of adding polymers to a nanoemulsion on its thickening, transparency, and stability.

VI. ISSUES

(1) Whether claims 78-82 are patentable under 35 U.S.C. § 103(a) over European Patent No. 0 842 652 A1 to *Restle et al.* ("*Restle*") in view of U.S. Patent No. 5,135,748 to *Ziegler et al.* ("*Ziegler*");

(2) whether claims 1-19, 21, 22, 30-62, 68-77, and 83 are patentable under 35 U.S.C. § 103(a) over European Patent No. 0 842 652 A1 to *Restle et al.* in view of U.S. Patent No. 5,135,748 to *Ziegler et al.*;

(3) whether claims 23-29 and 63 are unpatentable under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler* as applied to claims 1-19, 21, 22, 30-62, and 68-83 above and further in view of European Patent No. 0780 114 A1 to *Simonnet* ("*Simonnet*");

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(4) whether claim 20 is unpatentable under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler,* further in view of *Simonnet,* as applied to claims 1-19, 21-63, and 68-83 above, and further in view of U.S. Patent No. 5,716,418 to *Matzik et al.* ("*Matzik*"); and

(5) whether claims 64-67 are unpatentable under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler,* further in view of *Simonnet,* further in view of *Matzik,* as applied to claims 1-63 and 68-83 above, and further in view of the Abstract of JP 10338899 to *Decoster et al.* ("*Decoster*").

VII. GROUPING OF CLAIMS

Each claim of this patent application is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. § 282. For convenience in handling this Appeal, however, the claims will be grouped into the following five groups:

(1) Claims 78-82;

(2) Claims 1-19, 21, 22, 30-62, 68-77, and 83;

(3) Claims 23-29 and 63;

(4) Claim 20; and

(5) Claims 64-67.

Thus, pursuant to 37 C.F.R. § 1.192(c)(7), in this Appeal, the rejected claims in each of the five groups will stand or fall together but separately from the other groups.

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VIII. ARGUMENTS

A. Factual Inquiries to Determine Obviousness

Several basic factual inquires must be made in order to determine the obviousness or non-obviousness of claims of a patent application under 35 U.S.C. § 103. These factual inquiries, set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), require the Examiner to:

(1) Determine the scope and content of the prior art;
(2) Ascertain the differences between the prior art and the claims in issue;
(3) Resolve the level of ordinary skill in the pertinent art; and
(4) Evaluate evidence of secondary considerations.

The obviousness or nonobviousness of the claimed invention is then evaluated in view of the results of these inquiries. *Graham*, 383 U.S. at 17-18. In making this evaluation, the references must be considered as a whole, and must suggest the desirability and thus the obviousness of making the combination. *See* M.P.E.P. § 2141. The references must also be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. *Id.* Additionally, a reasonable expectation of success is the standard with which obviousness is determined. *Id.* Furthermore, the Examiner bears the initial burden of factually supporting a determination of obviousness in the rejection of the claimed invention. *See* M.P.E.P. § 2142.

Thus, in order to carry the initial burden of establishing a *prima facie* case of obviousness that satisfies the *Graham* standard, the Examiner must show (1) that there exists some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings, (2) that there is a reasonable expectation of

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success, and (3) that all claim elements are disclosed by the prior art references. *See* M.P.E.P. § 2143. For the reasons set forth below, the Examiner has failed to meet the burden of establishing a prima facie case of obviousness.

B. The Examiner is Using a Legally Incorrect Standard for Determining Obviousness

In the Advisory Action mailed June 26, 2002, the Examiner asserts that:

> [a] skilled artisan would have expected that a skin-conditioning cationic polymer[] used in one type of cosmetic composition would still provide the same beneficial properties in other type[s] of composition[s], unless proven otherwise. Applicants provide no support why it would be unexpected or nonobvious to employ in the nanoemulsion cosmetic composition a skin-conditioning component used in other types of emulsion composition.

See page 2 of the Advisory Action mailed June 26, 2002.

However, in contrast to the Examiner's assertion, it is the Examiner who bears the initial burden of establishing a prima facie case of obviousness. *See In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). If the Examiner does not establish a prima facie case, Appellants need **not** submit **any** evidence of nonobviousness. Indeed, "[t]he lack of objective evidence of nonobviousness does **not** weigh in favor of obviousness." *See* M.P.E.P. § 716.01(a) (emphasis added). Only if the Examiner demonstrates a prima facie case of obviousness does the burden shift to the Appellants to come forward with evidence persuasive of the invention's nonobviousness. *See In re Piasecki*, 745 F.2d at 1472, 223 U.S.P.Q. at 788. In the present case, as discussed below, the Examiner has failed to demonstrate a prima facie

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case of obviousness and, therefore, Appellants bear no burden to demonstrate nonobviousness.

C. The Examiner has not Established that the Proposed Modifications Would have been Obvious

With respect to the claimed invention, a prima facie case of unpatentability requires that that there exists some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings.

Merely identifying each of the claimed elements in the prior art is not sufficient to establish a prima facie case of obviousness. The suggestion, or motivation to modify or combine must be "clear and particular." See *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). When a claimed invention combines two or more known elements, a patentability determination rests on "whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." *In re Beattie*, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992) (internal citations omitted).

In the present case, there would not have been the requisite motivation to modify the compositions disclosed in the prior art references in a manner necessary to arrive at the presently claimed nanoemulsion.

a. *Group 1: Claims 78-82*

Claims 78-82 are rejected under 35 U.S.C. § 103(a) as unpatentable over European Patent No. 0 842 652 A1 to *Restle et al.* ("*Restle*") in view of U.S. Patent No. 5,135,748 to *Ziegler et al.* ("*Ziegler*").

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The claims in this group recite the common feature of a nanoemulsion comprising: (1) oil globules with an average size of less than 150 nm comprising at least one oily phase, (2) at least one amphiphilic lipid, and (3) at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

Restle is drawn to an oil-in-water emulsion having oil globules with a mean size of 150 nm. The emulsion in *Restle* comprises an amphiphilic lipid phase containing at least one non-ionic amphiphilic lipid which is liquid at an ambient temperature of less than 45°C and at least one cationic amphiphilic lipid. *See e.g.,* Abstract. *Ziegler* teaches an aqueous composition which includes a quaternary ammonium phosphate esters and a cationic polysaccharide. The Examiner relies on *Ziegler* for its teaching of cationic polymers, either alone or in combination with quaternary ammonium phosphate esters. *See* page 3 of the Office Action dated August 16, 2001.

Neither *Restle* nor *Ziegler* teaches or suggests at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block as presently claimed. The Examiner has not even addressed these claims separately from independent claim 1. Accordingly, the Examiner has not and could not have demonstrated a prima facie case of obviousness over claims 78-82.

For at least these reasons, Appellants submit that, even if the proposed modifications of the compositions of *Restle* by adding the cationic polymers, as taught by *Ziegler et al.*, were made, the resulting combination would not teach or suggest the compositions of claims 78-82.

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b. *Group 2: Claims 1-19, 21, 22, 30-62, 68-77, and 83*

Claims 1-19, 21, 22, 30-62, 68-77, and 83 are rejected under 35 U.S.C. § 103(a) as unpatentable over *Restle* in view of *Ziegler*.

The claims in this group recite the common feature of a nanoemulsion comprising: (1) oil globules with an average size of less than 150 nm comprising at least one oily phase, (2) at least one amphiphilic lipid, and (3) at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

Appellants submit that the combination of *Restle* and *Ziegler* does not provide a prima facie case of obviousness with respect to these claims for at least the following reasons.

1. ***There is no objective evidence showing the desirability of the proposed combination***

As discussed above, *Restle* is drawn to an oil-in-water emulsion, the oil globules having a mean size of 150 nm, comprising an amphiphilic lipid phase containing at least one non-ionic amphiphilic lipid which is liquid at an ambient temperature of less than 45°C and at least one cationic amphiphilic lipid. *See e.g.,* Abstract. According to the Examiner, *Ziegler* teaches a cosmetic oil-in-water composition comprising quaternary ammonium phosphate esters and cationic polymers which allegedly meet the limitations of claims 5-16. *See* page 3 of the Office Action dated August 16, 2001. The Examiner concludes that:

> [i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the composition of *Restle et al.* by adding the cationic polymers, as taught by *Ziegler et al.*,

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because of the expectation of successfully producing a cosmetic composition with enhanced stability and moisture retention.

Id.

In the final Office Action dated February 12, 2002, the Examiner refutes that the above assertion should be "interpreted to mean that a routineer would pick the cationic polysaccharide only and leave out the quaternary ammonium functionalized phosphate esters" of *Ziegler*. *See* page 3 of the final Office Action dated February 12, 2002. However, in the Advisory Action, the Examiner appears to recant the assertion in the final Office Action, stating "the examiner's rejection is based on the proposal that modifying the composition in *Restle* by adding the skin-conditioning ingredient taught in *Ziegler* would have been obvious to a skilled artisan, and not by adding the entire composition of the secondary reference." *See* page 2 of the Advisory Action.

With respect to the Examiner's two propositions that it would have been obvious to add the cationic polysaccharide of *Ziegler* to *Restle*'s compositions, Appellants maintain that one of ordinary skill in the art would not have been motivated to modify *Restle*'s compositions in such a manner.

For example, even if the individual components of the presently claimed invention are found separately in *Restle* and *Ziegler*, the separate disclosures would not defeat the patentability of the composition as a whole. The Federal Circuit has been clear on this point, and has held that "[m]ost if not all inventions arise from a combination of old elements.... However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention." *In re Kotzab*, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000) (internal citations omitted).

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Further, with respect to both the proposition that it would have been obvious to add the cationic polysaccharide of *Ziegler* to *Restle*'s compositions and the proposition that it would have been obvious to add the entire composition of *Ziegler* to *Restle*'s compositions, Appellants submit that the requisite objective teaching of motivation, suggestion or desirability is not present in the references.

The Federal Circuit has held that "[w]hen an obviousness determination is based on multiple prior art references, there must be a showing of some 'teaching, suggestion, or reason' to combine the references." *Winner International Royalty Corp. v. Wang,* 53 USPQ2d 1580, 1586 (Fed. Cir. 2000), citing *Gambro Lundia AB v. Baxter Healthcare Corp.*, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (also noting that the "absence of such a suggestion to combine is dispositive in an obviousness determination"). As explained by the Federal Circuit, "[o]ur case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." *In re* Dembiczak 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

The Examiner can meet the burden of establishing a prima facie case of obviousness "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references." *In re Fine,* 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988) (internal citations omitted) (emphasis added).

On January 18, 2002, the Federal Circuit again reaffirmed the Examiner's high burden to establish a *prima facie* case of obviousness and emphasized the requirement

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for specificity. In *In re Sang-Su Lee*, the Federal Circuit held that "[t]he factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with." 277 F.3d 1338, 1433 (Fed. Cir. 2002). Further, the Federal Circuit explained that

> [t]he need for specificity pervades this authority... the examiner can satisfy the burden of showing obviousness of the combination only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.

Id. (internal citations and quotation omitted) (emphasis added).

In the present case, Appellants respectfully submit that the requisite objective teaching is not present in the references.

a. *THE EXAMINER'S ASSERTED BASES FOR OBVIOUSNESS ARE NOT SUFFICIENT BASES FOR A REJECTION UNDER § 103(a)*

In support of its rejection, the Office has argued, among other things, that "there are evidences that the cationic surfactants used in typical emulsions are also employed in both *Restle*'s and applicants' nanoemulsions." *See* page 4 of the final Office Action (citing U.S. Patent 6,120,757 to *Dubief et al.*, col. 4, line 63- col. 6, line 65, and col. 6, lines 17-23, for the alleged teaching of an aqueous dispersion comprising organosiloxane and water-insoluble cationic surfactants.) In the Advisory Action, the Examiner asserts that "[a] skilled artisan would have expected that a skin-conditioning cationic polymer[] used in one type of cosmetic composition would still provide the same

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beneficial properties in other type[s] of composition[s], unless proven otherwise." *See* page 2 of the Advisory Action dated June 26, 2002.

However, these statements amount to a conclusion that the addition of cationic surfactants and skin-conditioning cationic polymers to nanoemulsions is prima facie obvious, even without any specific motivation to select and combine the particular components merely because the components are known. This rationale, however, is in conflict with the applicable legal standards for obviousness, which require the motivation to arise from objective evidence of record. Moreover, as the Office knows, "[t]he level of skill in the art cannot be relied upon to provide the suggestion to combine references." M.P.E.P. § 2143.01, citing *Al-Site Corp. v. VSI Int'l Inc.*, 50 USPQ2d 1161 (Fed. Cir. 1999). In *Al-Site*, the Federal Circuit rejected an obviousness argument where there was no "specific teaching or suggestion for making [the proposed] combination" and held that "[s]kill in the art does not act as a bridge over gaps in substantive presentations of an obviousness test, but instead supplies the primary guarantee of objectivity in the process." *Al-Site* at 1171.

With respect to *Dubief et al.*, this reference merely discloses a broad teaching of "emulsions of oil-in-water type, gels and cream-gels" and emulsions "in the form of a simple or complex emulsion (O/W, W/O, O/W/O or W/D/W)." *See* col. 6, lines 17-23. Like *Ziegler*, this reference does not clearly and unequivocally disclose its cationic surfactants in nanoemulsions as claimed. Indeed, *Dubief* does not even mention nanoemulsions. Thus, *Dubief* fails to suffice as evidence that the cationic surfactants are known to be used in nanoemulsions.

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Further, the Office's rational is so broad that it would encompass essentially the modification of any composition by adding the two components of *Ziegler* for the purposes taught by *Ziegler*. Thus, the Office's rational in the present case is diametrically opposed to the Federal Circuit's holdings with respect to combining old elements, since the Office is taking the position that the combination of known elements is prima facie obvious. Moreover, and again in conflict with the obviousness requirements as set forth by the Federal Circuit, there is nothing "clear and particular" about the motivation of mixing *Ziegler's* polymers with the nanoemulsions of *Restle* suggested by the Office. From any reasonable perspective, a rationale that is this broadly drawn is not "particular" either to the cited references or to the presently claimed invention. The Federal Circuit has rejected the use of broad conclusory statements in lieu of a "specific hint or suggestion in a particular reference" to support a combination of references. *In re Lee*, 277 F.3d 1338, 1344 (Fed. Cir. 2002). If anything, the "absence of such a suggestion to combine is dispositive in an obviousness determination." *See Gambro Lundia AB v. Baxter Healthcare Corp.*, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997).

Accordingly, Appellants maintain that that there would have been no suggestion or motivation to combine either *Ziegler's* cationic polysaccharide or its entire combination with the compositions of *Restle*. For at least this reason, it is respectfully asserted that a prima facie case of obviousness has not been established.

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b. *RESTLE* AND *ZIEGLER* DO NOT SUGGEST THE DESIRABILITY OF THE COMBINATION

To support a rejection based on a combination of references, the "prior art must suggest the desirability of the combination." M.P.E.P. § 2143.01. Further, the Examiner must consider the teachings of references "in their entirety, i.e., as a whole, including portions that would lead away from the claimed invention." M.P.E.P. §2141.02 (emphasis in original). "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be . . . led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994). In the present case, one of ordinary skill in the art would be led in a direction divergent from selecting and isolating the cationic polysaccharide of *Ziegler*, as *Ziegler* actually teaches away from doing so.

Ziegler does not teach or suggest isolating the cationic polysaccharides disclosed therein and adding them to other compositions. Rather, *Ziegler* teaches a specific combination of a quaternary ammonium functionalized phosphate ester and a cationic polysaccharide, the combination as a whole being useful for moisture retention and enhanced stability of compositions. *See* col. 1, lines 55-65.

Moreover, *Ziegler* is void of any teaching or suggestion to support the proposition that it is the cationic polymers of *Ziegler* that are responsible for such enhanced stability and/or moisture retention. In fact, *Ziegler* teaches that "[p]oor results were obtained when only Quatrisoft LM-200 [cationic polymer] was used without Monaquat [quaternary ammonium functionalized phosphate ester]." *See* col. 10, lines 61-62. Thus, the beneficial results associated with *Ziegler's* composition are expressly taught to be the

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result of the combination of a quaternary ammonium functionalized phosphate ester and a cationic polysaccharide. *See* col. 2, lines 17-23.

Significantly, the Examiner herself has admitted that "*Ziegler* does require the combination of both the cationic polysaccharides and quaternary ammonium functionalized phosphate esters in order to achieve the proposed enhancement of the moisture retention on skin." *See* page 3 of the final Office Action dated February 12, 2002. In view of the express teachings of *Ziegler,* which describe the benefits associated with a combination of compounds, it is not clear why one would seek benefits from the individual components as suggested by the Examiner. Rather, when the teachings of *Ziegler* are viewed in their entirety, it is clear that this reference, either alone or taken with *Restle,* do not teach or suggest the claimed invention. At best, the rejection over these references is based on an obvious to try standard.

c. *OBVIOUS TO TRY IS NOT A SUFFICIENT BASIS FOR A REJECTION UNDER § 103(a)*

In moving from the prior art to the claimed invention, one, however, cannot base a determination of obviousness on what the skilled person might try or find obvious *to try*. Rather, the proper test requires determining what the prior art would have led the skilled person *to do*. The Federal Circuit has given some examples of what would constitute an "obvious to try" modification based on the prior art. See *In re O'Farrell*, 853 F.2d 894, 7 U.S.P.Q.2d 1673 (Fed. Cir. 1988). For example, what was 'obvious to try' was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to

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the particular form of the claimed invention or how to achieve it." *Id* at 903, 7 U.S.P.Q.2d at 1681 (citations omitted). In the present case, the prior art, at best, gave general guidance to use components in generic emulsions (not nanoemulsions) in cosmetic compositions.

As discussed above, *Ziegler* discloses that its compositions "may either be oil-in-water or water-in-oil emulsions." *See* col. 2, lines 8-9. However, *Ziegler* is simply silent with respect to nanoemulsions. Therefore, *Ziegler* does not recognize the differences between different emulsions, such as microemulsions and nanoemulsions. As shown in the paragraph bridging pages 1-2 of Appellants' specification, differences between nanoemulsions and microemulsions do exist.

Thus, while *Ziegler* may have made it obvious to try the components suggested therein to arrive at the claimed invention, such an obvious to try standard does not support a rejection under Section 103.

Further, the unpredictability of adding polymers to nanoemulsions has been shown by Appellants. For example, Appellants recite, "[w]hen such polymers [e.g., optionally crosslinked polymers] are used in compositions in the form of nanoemulsions, some of such nanoemulsions may tend to exhibit a decrease in at least one characteristic, such as stability and transparency." *See* Specification, page 3, lines 14-16). Appellants have also demonstrated that the thickening, the transparency, and the stability of an inventive nanoemulsion comprising, inter alia, a cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block (Quatrisoft LM 200) are all greater than a non-inventive nanoemulsion, e.g., one comprising Carbopol Ultrez, a crosslinked acrylic acid homopolymer, instead of a cationic polymer

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comprising at least one hydrophobic block and at least one hydrophilic block. *See* Example 1 at pages 49-51. Further, *Ziegler* shows no recognition of the significance of the nature of the emulsion on the effect of the polymers added thereto. *See e.g.,* col. 2, lines 8-9 (reciting that, *Ziegler*'s compositions may either be oil-in-water or water-in-oil emulsions).

This illustration highlights the unpredictability associated with the Examiner's suggested modification, and is an aspect of the invention that *Ziegler* not only fails to recognize but actually teaches away from.

Accordingly, Appellants maintain that, given the unpredictability of the effect of certain polymers on nanoemulsions and given *Ziegler*'s lack of recognition of the differences between different types of emulsions, one of ordinary skill in the art would not have been motivated to make the claimed invention from either the combination of *Ziegler's* cationic polysaccharide or its entire composition with the compositions of *Restle.*

For at least the foregoing reasons, Appellants respectfully maintain that the Examiner has failed to demonstrate a prima facie case of obviousness with respect to claims 1-19, 21, 22, 30-62, and 68-83.

Group 3: Claims 23-29 and 63

Claims 23-29 and 63 have been finally rejected under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler* as applied to claims 1-19, 21, 22, 30-62, and 68-83 above and further in view of European Patent No. 0780 114 A1 to *Simonnet* ("*Simonnet*").

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Claims 23-29 recite the common feature of a nanoemulsion comprising: (1) oil globules with an average size of less than 150 nm comprising at least one oil, (2) at least one amphiphilic lipid, (3) at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block, and (4) at least one ionic lipid chosen from the cationic amphiphilic lipids and anionic amphiphilic lipids recited in claim 23. Claim 63 is drawn to a nanoemulsion comprising: (1) oil globules with an average size of less than 150 nm comprising at least one oil, (2) at least one amphiphilic lipid, (3) at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block, wherein the nanoemulsion has a turbidity ranging from 60 NTU to 600 NTU.

The Examiner admits that the combination of *Restle* and *Ziegler* fails to teach the anionic amphiphilic lipids of instant claim 23 and the turbidity of the compositions. The Examiner therefore relies on *Simonnet* to cure these deficiencies.

As discussed above, however, one of ordinary skill in the art would not have been motivated to combine the teachings of *Restle* and *Ziegler*. Accordingly, *Simonnet*, as relied on by the Examiner for its alleged teaching of anionic amphiphilic lipids and turbidity of the claimed invention, fails to cure the deficiencies of the proposed combination. Moreover, *Simonnet* discloses a transparent oil-in-water emulsion wherein the oil globules have a mean size of less than 100 nm and wherein the emulsion comprises at least one silicone surfactant. The Examiner summarily concludes that

> [i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the composition of the

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> combined references by adding the anionic amphiphilic lipids as taught by *Simonnet* because of the expectation of successfully producing a transparent cosmetic emulsion composition with well known surfactants in the art.

See page 4 of the Office Action dated August 16, 2001.

However, *Simonnet* merely discloses ionic amphiphilic lipids as being one of numerous optional ingredients. Further, *Simonnet* does not attribute any properties to these lipids. Accordingly, *Simonnet* cannot and does not discuss the effects of such optional lipids on a nanoemulsion comprising oil globules having a mean size of 150 nm, an amphiphilic lipid phase containing at least one non-ionic amphiphilic lipid which is liquid at an ambient temperature of less than 45°C, at least one cationic amphiphilic lipid, and the cationic polymers of *Ziegler*. Accordingly, *Simonnet* fails to provide the requisite motivation to make the proposed modification. Further, neither *Restle* nor *Ziegler* suggest the desirability of such a combination.

Moreover, as with the rejection over *Restle* and *Ziegler*, the Office's rationale here is so broad that it would encompass essentially the modification of <u>any</u> composition by adding the optional lipids of *Simonnet* for any purpose or no purpose at all. Thus, the Office's rationale in the present case is diametrically opposed to the Federal Circuit's holdings with respect to combining old elements, since the Office is taking the position that the combination of known elements is prima facie obvious.

Thus, while *Simonnet* may, at best, have made it obvious to try adding the lipids disclosed therein as optional ingredients, such an obvious to try standard does not support a rejection under Section 103.

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For at least the foregoing reasons, Appellants respectfully maintain that the Examiner has failed to demonstrate a prima facie case of obviousness with respect to claims 23-29 and 63.

Group 4: Claim 20

Claim 20 has been finally rejected under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler,* further in view of *Simonnet,* as applied to claims 1-19, 21-63, and 68-83 above, and further in view of U.S. Patent No. 5,716,418 to *Matzik et al.* ("*Matzik*").

Claim 20 is drawn to a nanoemulsion comprising: (1) oil globules with an average size of less than 150 nm comprising at least one oil, (2) at least one amphiphilic lipid, (3) at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block, wherein said at least one amphiphilic lipid is chosen from nonionic amphiphilic lipids and anionic amphiphilic lipids, wherein said anionic amphiphilic lipids are chosen from alkyl ether citrates, alkoxylated alkenyl succinates, alkoxylated glucose alkenyl succinates, and alkoxylated methylglucose alkenyl succinates.

The Examiner admits that the combination of *Restle, Ziegler,* and *Simonnet* fails to teach the anionic amphiphilic lipids of instant claim 20. *See* page 5 of the Office Action dated August 16, 2001. The Examiner therefore relies on *Matzik* to cure this deficiency.

However, as discussed above, one of ordinary skill in the art would not have been motivated to combine the teachings of *Restle, Ziegler,* and *Simonnet.* Accordingly, *Matzik,* as relied on by the Examiner for its alleged teaching of anionic

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surfactants, including fatty alkyl ether citrates, is irrelevant because this reference fails to cure the fundamental deficiencies of the underlying references.

Moreover, *Matzik* is drawn to a composition for coloring keratin-containing fibers comprising an alkyl glycoside, an oxidation dye precursor, and a water-based carrier. *See* Abstract. *Matzik* discloses that its composition optionally comprises other surfactants, such as anionic, cationic, nonionic, amphoteric, and zwitterionic surfactants. *See* col. 2, lines 27-31. *Matzik* discloses at least fifteen (15) broad classes of suitable anionic surfactants for use in its hair dye compositions. *See* col. 2, lines 32-48. Based on this broad disclosure, the Examiner summarily concludes that

> [i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the composition of the combined references by adding the anionic amphiphilic lipid as taught by *Matzik* because of the expectation of successfully producing a cosmetic composition with a known surfactants [sic] in the art.

See page 5 of the Office Action dated August 16, 2001.

As discussed above, *Matzik* merely discloses 15 broad classes of anionic surfactants as being one of numerous optional ingredients. As with *Simonnet, Matzik* cannot and does not discuss the effects of such optional surfactants on a nanoemulsion comprising oil globules having a mean size of 150 nm, an amphiphilic lipid phase containing at least one non-ionic amphiphilic lipid which is liquid at an ambient temperature of less than 45°C, at least one cationic amphiphilic lipid, and the cationic polymers of *Ziegler.* Accordingly, *Matzik* fails to provide the requisite motivation or suggest the desirability to combine the claimed components as asserted by the Examiner.

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Moreover, as with the rejections over *Restle* and *Ziegler*, *Restle, Ziegler,* and *Simonnet,* the Office's rationale here is so broad that it would encompass essentially the modification of <u>any</u> composition by adding the optional surfactants of *Matzik* for any purpose or no purpose at all. Thus, the Office's rationale in the present case is diametrically opposed to the Federal Circuit's holdings with respect to combining old elements, since the Office is taking the position that the combination of known elements is prima facie obvious.

For at least the foregoing reasons, Appellants respectfully maintain that the Examiner has failed to demonstrate a prima facie case of obviousness with respect to claim 20.

Group 5: Claims 64-67

Claims 64-67 have been finally rejected under 35 U.S.C. § 103(a) over *Restle* in view of *Ziegler,* further in view of *Simonnet,* further in view of *Matzik,* as applied to claims 1-63 and 68-83 above, and further in view of the Abstract of JP 10338899 to *Decoster et al.* ("*Decoster*").

The claims in this group recite the common feature of a nanoemulsion comprising: (1) oil globules with an average size of less than 150 nm comprising at least one oil, (2) at least one amphiphilic lipid, (3) at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block, and (4) at least one aminosilicone.

The Examiner admits that the combination of *Restle, Ziegler, Simonnet,* and *Matzik* fails to teach aminosilicone, as claimed in instant claims 64-67. *See* page 5 of

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the Office Action dated August 16, 2001. The Examiner therefore relies on *Decoster* to cure this deficiency.

However, as discussed above, one of ordinary skill in the art would not have been motivated to combine the teachings of *Restle, Ziegler, Simonnet,* and *Matzik.* Accordingly, *Decoster,* as relied on by the Examiner for its alleged teaching of aminosilicone, fails to cure the fundamental deficiencies of the underlying references and thus cannot render the claimed invention obvious.

Moreover, *Decoster* is drawn to a cosmetic detergent composition comprising a detergent base containing at least one anionic surfactant of an alkyl sulfate ether type and at least one amphoteric surfactant of a C_8-C_{20} alkylbetaine type, at least one aminosilicone of formula (II) therein, and at least one cationic polymer of formula (III) therein. *See* Abstract. The Examiner summarily concludes that

> [i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the composition of the combined references by adding the aminosilicone, as taught by *Decoster et al.,* because of the expectation of successfully producing a cosmetic detergent composition.

See page 5 of the Office Action dated August 16, 2001.

However, as with *Ziegler, Decoster* discloses a composition comprising a specific combination of particular components, and does not attribute any properties to the aminosilicone alone. Thus, *Decoster* cannot and does not discuss the effects of aminosilicone on a nanoemulsion comprising oil globules of which have a mean size of 150 nm, an amphiphilic lipid phase containing at least one non-ionic amphiphilic lipid which is liquid at an ambient temperature of less than 45°C, at least one cationic

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amphiphilic lipid, and the cationic polymers of *Ziegler*. Accordingly, *Decoster* fails to provide the requisite motivation to make the proposed combination. Further, neither *Restle, Ziegler, Simonnet,* nor *Matzik* suggest the desirability of such a combination either. Moreover, as with the above-described rejections, the Office's rationale is so broad that it would encompass essentially the modification of any composition by adding the aminosilicone of *Decoster* for any purpose or no purpose at all. Thus, the Office's rationale in the present case is diametrically opposed to the Federal Circuit's holdings with respect to combining old elements, since the Office is taking the position that the combination of known elements is prima facie obvious.

For at least the foregoing reasons, Appellants respectfully maintain that the Examiner has failed to demonstrate a prima facie case of obviousness with respect to claims 64-67.

Conclusion

For the reasons set forth above, Appellants maintain that a prima facie case of obviousness has not been established by the Examiner based on any of the combinations of cited references proposed by the Examiner. The Examiner failed to demonstrate that one of ordinary skill in the art would have been motivated to make the modifications and combinations proposed by the Examiner. Accordingly, Appellants respectfully request reversal of the rejections of claims 1-83 under 35 U.S.C. § 103(a).

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Please grant any extensions of time required to enter this Brief and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: November 7, 2002

By: _____
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Appendix of Pending Claims

1. An oil-in-water nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilic lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

2. A nanoemulsion according to claim 1, wherein said at least one oil and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oil to the amount of said at least one amphiphilic lipid ranges from 1:1 to 10:1.

3. A nanoemulsion according to claim 2, wherein said weight ratio ranges from 1.2:1 to 6:1.

4. A nanoemulsion according to claim 1, wherein said oil globules have an average size ranging from 30 nm to 100 nm.

5. A nanoemulsion according to claim 1, wherein said at least one cationic polymer is chosen from water-soluble cationic polymers and water-dispersible cationic polymers.

6. A nanoemulsion according to claim 1, wherein said at least one cationic polymer comprises at least two hydrophobic blocks.

7. A nanoemulsion according to claim 1, wherein said at least one hydrophobic block is chosen from fatty chains comprising from 6 to 30 carbon atoms, divalent aliphatic groups, divalent cycloaliphatic groups and divalent aromatic groups.

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8. A nanoemulsion according to claim 7, wherein said fatty chains comprising from 6 to 30 carbon atoms are chosen from alkyl chains, arylalkyl chains, alkylaryl chains and alkenyl chains.

9. A nanoemulsion according to claim 1, wherein said at least one hydrophilic block is chosen from polyethylene oxides, polysaccharides, polyamides, and polyesters.

10. A nanoemulsion according to claim 9, wherein said polyamides are chosen from polyacrylamides.

11. A nanoemulsion according to claim 1, wherein said at least one hydrophobic block and said at least one hydrophilic block are bonded with at least one linking group chosen from ester, ether, urea, amide and urethane linkers.

12. A nanoemulsion according to claim 1, wherein said at least one hydrophilic block and said at least one hydrophobic block are present in amounts wherein the weight ratio of the amount of said at least one hydrophilic block to the amount of said at least one hydrophobic block ranges from 10:1 to 1000:1.

13. A nanoemulsion according to claim 1, wherein said at least one cationic polymer is chosen from polyacrylates comprising at least one amine side group and quaternized cellulose derivatives.

14. A nanoemulsion according to claim 1, wherein said at least one cationic polymer is present in an amount ranging from 0.1% to 20% by weight relative to the total weight of the final composition.

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15. A nanoemulsion according to claim 14, wherein said at least one cationic polymer is present in an amount ranging from 0.5% to 10% by relative to the total weight of the final composition weight.

16. A nanoemulsion according to claim 15, wherein said at least one cationic polymer is present in an amount ranging from 1% to 5% by weight relative to the total weight of the final composition.

17. A nanoemulsion according to claim 1, wherein said at least one amphiphilic lipid is chosen from nonionic amphiphilic lipids and anionic amphiphilic lipids.

18. A nanoemulsion according to claim 17, wherein said nonionic amphiphilic lipids are chosen from:

1/- silicone surfactants,

2/- nonionic amphiphilic lipids that are fluid at a temperature of less than or equal to 45°C chosen from esters formed from (i) at least one polyol chosen from polyethylene glycol comprising from 1 to 60 ethylene oxide units, sorbitan, glycerol comprising from 2 to 30 ethylene oxide units, polyglycerols comprising from 2 to 15 glycerol units, and (ii) at least one fatty acid comprising at least one alkyl chain chosen from saturated and unsaturated, linear and branched C_8-C_{22} alkyl chains,

3/- mixed esters derived from (i) at least one fatty acid, at least one carboxylic acid, and glycerol, and mixed esters derived from (ii) at least one fatty alcohol, at least one carboxylic acid, and glycerol, wherein said at least one carboxylic acid is chosen from α-hydroxy acids and succinic acid,

4/- fatty acid esters of sugars and fatty alcohol ethers of sugars,

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5/- surfactants that are solid at a temperature of less than or equal to 45°C chosen from fatty esters of glycerol, fatty esters of sorbitan, oxyethylenated fatty esters of sorbitan, ethoxylated fatty ethers, and ethoxylated fatty esters, and

6/- block copolymers of ethylene oxide (A) and of propylene oxide (B).

19. A nanoemulsion according to claim 17, wherein said nonionic amphiphilic lipids are chosen from:

- polyethylene glycol isostearate (8 mol of ethylene oxide),
- diglyceryl isostearate,
- polyglyceryl monolaurate, polyglyceryl monostearate, and polyglyceryl distearate which comprise 10 glycerol units,
- sorbitan oleate, and
- sorbitan isostearate.

20. A nanoemulsion according to claim 17, wherein said anionic amphiphilic lipids are chosen from:

- alkyl ether citrates,
- alkoxylated alkenyl succinates,
- alkoxylated glucose alkenyl succinates, and
- alkoxylated methylglucose alkenyl succinates.

21. A nanoemulsion according to claim 1, wherein said at least one amphiphilic lipid is present in an amount ranging from 0.2% to 15% by weight relative to the total weight of the nanoemulsion.

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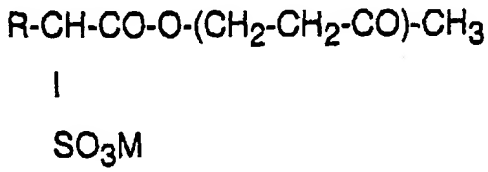
22. A nanoemulsion according to claim 21, wherein said at least one amphiphilic lipid is present in an amount ranging from 1% to 8% by weight relative to the total weight of the nanoemulsion.

23. A nanoemulsion according to claim 1 further comprising at least one ionic amphiphilic lipid chosen from cationic amphiphilic lipids and anionic amphiphilic lipids chosen from:

- alkaline salts of dicetyl phosphate and of dimyristyl phosphate;
- alkaline salts of cholesteryl sulfate;
- alkaline salts of cholesteryl phosphate;
- lipoamino acids and salts thereof;
- sodium salts of phosphatidic acid;
- phospholipids; and
- alkylsulfonic derivatives of formula:



in which R, which may be identical or different in embodiments wherein more than one of said alkylsulfonic derivative is used, is chosen from C_{16}-C_{22} alkyl groups, and M is chosen from alkali metals and alkaline-earth metals.

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24. A nanoemulsion according to claim 23, wherein said lipoamino acids and salts thereof are chosen from monosodium and disodium acylglutamates.

25. A nanoemulsion according to claim 24, wherein said lipoamino acids and salts thereof are chosen from the disodium salt of N-stearoyl-L-glutamic acid.

26. A nanoemulsion according to claim 23, wherein said R is chosen from $C_{16}H_{33}$ and $C_{18}H_{37}$ groups.

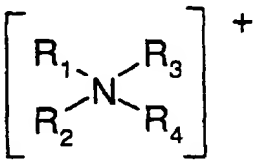
27. A nanoemulsion according to claim 23, wherein said M is sodium.

28. A nanoemulsion according to claim 23, wherein said at least one ionic amphiphilic lipid chosen from cationic amphiphilic lipids and anionic amphiphilic lipids is present in said nanoemulsion in an amount ranging from 0.01% to 10% by weight relative to the total weight of the nanoemulsion.

29. A nanoemulsion according to claim 28, wherein said at least one ionic amphiphilic lipid chosen from cationic amphiphilic lipids and anionic amphiphilic lipids is present in said nanoemulsion in an amount ranging from 0.2% to 5% by weight relative to the total weight of the nanoemulsion.

30. A nanoemulsion according to claim 23, wherein said cationic amphiphilic lipids are chosen from:

A) quaternary ammonium salts of formula (IV):



(IV)

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in which:

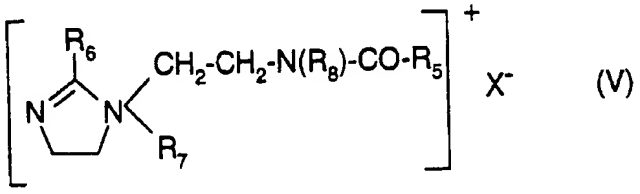
- R_1, R_2, R_3, and R_4, which may be identical or different, are each chosen from:

- linear and branched aliphatic groups comprising from 1 to 30 carbon atoms and optionally comprising atoms chosen from hetero and halogen atoms, and

- aromatic groups, and

- X^- is an anion chosen from halides, phosphates, acetates, lactates, (C_2-C_6)alkyl sulfates, alkyl sulfonates, and alkylaryl sulfonates;

B) quaternary ammonium salts of imidazolinium of formula (V):



(V)

in which:

- R_5 is chosen from alkenyl and alkyl groups comprising from 8 to 30 carbon atoms,

- R_6 is chosen from a hydrogen atom, C_1-C_4 alkyl groups, and alkenyl and alkyl groups comprising from 8 to 30 carbon atoms,

- R_7 is chosen from C_1-C_4 alkyl groups,

- R_8 is chosen from a hydrogen atom and C_1-C_4 alkyl groups, and

- X^- is an anion chosen from halides, phosphates, acetates, lactates, alkyl sulfates, alkyl sulfonates, and alkylaryl sulfonates;

C) diquaternary ammonium salts of formula (VI):

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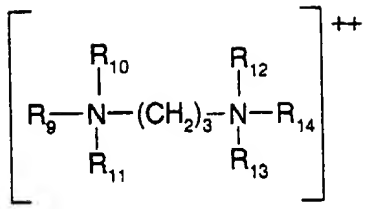


(VI)

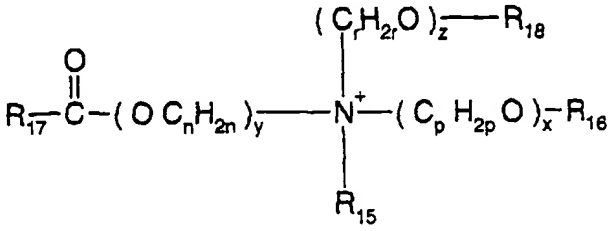
in which:

- R_9 is chosen from aliphatic groups comprising from 16 to 30 carbon atoms,

- R_{10}, R_{11}, R_{12}, R_{13} and R_{14}, which may be identical or different, are each chosen from a hydrogen atom and alkyl groups comprising from 1 to 4 carbon atoms, and

- X^- is an anion chosen from halides, acetates, phosphates, nitrates and methyl sulfates; and

D) quaternary ammonium salts comprising at least one ester function chosen from said quaternary ammonium salts of formula (VII):



(VII)

in which:

- R_{15} is chosen from C_1-C_6 alkyl groups, C_1-C_6 hydroxyalkyl groups and C_1-C_6 dihydroxyalkyl groups;

- R_{16} is chosen from:

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- acyl groups of the following formula:

wherein R_{19} is defined below,

- linear and branched, saturated and unsaturated, C_1-C_{22} hydrocarbon-based groups, and

- a hydrogen atom;

- R_{18} is chosen from:

- acyl groups of the following formula:

wherein R_{21} is defined below,

- linear and branched, saturated and unsaturated, C_1-C_6 hydrocarbon-based groups, and

- a hydrogen atom;

- R_{17}, R_{19} and R_{21}, which may be identical or different, are each chosen from linear and branched, saturated and unsaturated, C_7-C_{21} hydrocarbon-based groups;

- n, p and r, which may be identical or different, are each chosen from integers ranging from 2 to 6;

- y is chosen from integers ranging from 1 to 10;

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- x and z, which may be identical or different, are each chosen from integers ranging from 0 to 10;

- X^- is chosen from simple and complex, organic and inorganic anions; and

- provided that the sum x + y + z is from 1 to 15, and that when x is 0, then R_{16} is chosen from linear and branched, saturated and unsaturated, C_1-C_{22} hydrocarbon-based groups, and that when z is 0, then R_{18} is chosen from linear and branched, saturated and unsaturated, C_1-C_6 hydrocarbon-based groups.

31. A nanoemulsion according to claim 30, wherein said aromatic groups are chosen from aryl and alkylaryl groups.

32. A nanoemulsion according to claim 30, wherein said hetero atoms are chosen from oxygen, nitrogen, and sulfur.

33. A nanoemulsion according to claim 30, wherein said aliphatic groups are chosen from alkyl, alkoxy, polyoxy(C_2-C_6)alkylene, alkylamide, (C_{12}-C_{22})alkylamido(C_2-C_6)alkyl, (C_{12}-C_{22})alkylacetate, and hydroxyalkyl groups comprising from 1 to 30 carbon atoms.

34. A nanoemulsion according to claim 30, wherein said alkenyl and alkyl groups comprising from 8 to 30 carbon atoms are chosen from groups derived from tallow fatty acid.

35. A nanoemulsion according to claim 30, wherein said diquaternary ammonium salts of formula (VI) comprise propane tallow diammonium dichloride.

36. A nanoemulsion according to claim 30, wherein said R_{15} alkyl groups are chosen from linear and branched alkyl groups.

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37. A nanoemulsion according to claim 36, wherein said R_{15} alkyl groups are chosen from linear alkyl groups.

38. A nanoemulsion according to claim 37, wherein said R_{15} alkyl groups are chosen from methyl, ethyl, hydroxyethyl and dihydroxypropyl groups.

39. A nanoemulsion according to claim 38, wherein said R_{15} alkyl groups are chosen from methyl and ethyl groups.

40. A nanoemulsion according to claim 30, wherein said sum of x + y + z ranges from 1 to 10.

41. A nanoemulsion according to claim 30, wherein when said R_{16} is chosen from linear and branched, saturated and unsaturated, C_1-C_{22} hydrocarbon-based groups, R_{16} is chosen from hydrocarbon-based groups comprising from 12 to 22 carbon atoms, and hydrocarbon-based groups comprising from 1 to 3 carbon atoms.

42. A nanoemulsion according to claim 30, wherein when said R_{18} is chosen from linear and branched, saturated and unsaturated, C_1-C_6 hydrocarbon-based groups, R_{18} comprises from 1 to 3 carbon atoms.

43. A nanoemulsion according to claim 42, wherein said R_{18} comprises from 1 to 3 carbon atoms.

44. A nanoemulsion according to claim 30, wherein said R_{17}, R_{19} and R_{21}, which may be identical or different, are each chosen from linear and branched, saturated and unsaturated C_{11}-C_{21} hydrocarbon-based groups.

45. A nanoemulsion according to claim 44, wherein said R_{17}, R_{19} and R_{21}, which may be identical or different, are each chosen from linear and branched, saturated and unsaturated, C_{11}-C_{21} alkyl and alkenyl groups.

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46. A nanoemulsion according to claim 30, wherein said x and z, which may be identical or different, are each chosen from 0 or 1.

47. A nanoemulsion according to claim 30, wherein said y is equal to 1.

48. A nanoemulsion according to claim 30, wherein said n, p and r, which may be identical or different, are each chosen from 2 and 3.

49. A nanoemulsion according to claim 48, wherein said n, p and r, which may be identical or different, are each equal to 2.

50. A nanoemulsion according to claim 30, wherein said anion is chosen from halides and alkyl sulfates.

51. A nanoemulsion according to claim 50, wherein said halides are chosen from chloride, bromide, and iodide.

52. A nanoemulsion according to claim 50, wherein said alkyl sulfates are chosen from methyl sulfate.

53. A nanoemulsion according to claim 30, wherein said anion is chosen from methanesulfonate, phosphate, nitrate, and tosylate.

54. A nanoemulsion according to claim 30, wherein said anion is chosen from anions derived from organic acids.

55. A nanoemulsion according to claim 30, wherein said cationic amphiphilic lipids of formula (IV) are chosen from tetraalkyammonium chlorides.

56. A nanoemulsion according to claim 55, wherein said tetraalkyammonium chlorides are chosen from dialkyldimethylammonium chlorides, and alkyltrimethylammonium chlorides, wherein said alkyl portion comprises from 12 to 22 carbon atoms.

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57. A nanoemulsion according to claim 30, wherein said cationic amphiphilic lipids of formula (IV) are chosen from behenyltrimethylammonium chloride, distearyldimethylammonium chloride, cetyltrimethylammonium chloride, benzyldimethylstearylammonium chloride and stearamidopropyldimethyl(myristyl acetate)ammonium chloride.

58. A nanoemulsion according to claim 30, wherein said cationic amphiphilic lipids of formula (IV) are chosen from behenyltrimethylammonium salts and stearamidopropyldimethyl(myristyl acetate)ammonium salts.

59. A nanoemulsion according to claim 1, wherein said at least one oil is chosen from plant oils, animal oils, synthetic oils, mineral oils, halogenated oils, esters of a mineral acid and of an alcohol, liquid carboxylic acid esters and silicones.

60. A nanoemulsion according to claim 1, wherein said at least one oil is present in an amount ranging from 2% to 40% by weight relative to the total weight of the nanoemulsion.

61. A nanoemulsion according to claim 60, wherein said at least one oil is present in an amount ranging from 4% to 30% by weight relative to the total weight of the nanoemulsion.

62. A nanoemulsion according to claim 1 further comprising at least one active agent chosen from water-soluble, water-dispersible, and liposoluble cosmetic active agents and water-soluble, water-dispersible, and liposoluble dermopharmaceutical active agents.

63. A nanoemulsion according to claim 1, wherein said nanoemulsion has a turbidity ranging from 60 NTU to 600 NTU.

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64. A nanoemulsion according to claim 1 further comprising at least one aminosilicone.

65. A nanoemulsion according to claim 64, wherein said at least one aminosilicone is present in an amount ranging from 0.05% to 10% by weight relative to the total weight of the nanoemulsion.

66. A nanoemulsion according to claim 65, wherein said at least one aminosilicone is present in an amount ranging from 0.1% to 5% by weight relative to the total weight of the nanoemulsion.

67. A nanoemulsion according to claim 66, wherein said at least one aminosilicone is present in an amount ranging from 0.3% to 3% by weight relative to the total weight of the nanoemulsion.

68. A composition for topical use chosen from cosmetic compositions and dermopharmaceutical compositions, wherein said composition for topical use comprises a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilc lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

69. A composition for caring for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilc lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

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70. A composition for washing a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilc lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

71. A cosmetic make up composition for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilc lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

72. A cosmetic make-up-removing composition for a keratin material chosen from body skin, facial skin, mucous membranes, the scalp, the hair, the nails, the eyelashes, and the eyebrows comprising a nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oil, at least one amphiphilc lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

73. A non-therapeutic care process for a keratin material comprising applying to said keratin material a nanoemulsion comprising oil globules with an average size of less than 150nm and comprising at least one oil, at least one amphiphilc lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

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74. A process according to claim 73, wherein said keratin material is chosen from the skin, the hair, the eyelashes, the eyebrows, the nails, mucous membranes and the scalp.

75. A non-therapeutic care process for a keratin material comprising applying to said keratin material a composition for topical use chosen from cosmetic compositions and dermopharmaceutical compositions, wherein said composition for topical use comprises a nanoemulsion comprising oil globules with an average size of less than 150nm and comprising at least one oil, at least one amphiphilc lipid, and at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

76. A process according to claim 75, wherein said keratin material is chosen from the skin, the hair, the eyelashes, the eyebrows, the nails, mucous membranes and the scalp.

77. A process for thickening oil-in-water nanoemulsions comprising including at least one cationic polymer comprising at least one hydrophobic block and at least one hydrophilic block in said nanoemulsions comprising oil globules with an average size of less than 150nm and comprising at least one oil and at least one amphiphilc lipid.

78. An oil-in-water nanoemulsion comprising oil globules with an average size of less than 150nm comprising at least one oily phase, at least one amphiphilc lipid, and at least one nonionic polymer comprising at least one hydrophobic block and at least one hydrophilic block.

79. A nanoemulsion according to claim 78, wherein said at least one oily phase and said at least one amphiphilic lipid are present in amounts wherein the weight

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ratio of the amount of said at least one oily phase to the amount of said at least one amphiphilic lipid ranges from 1:1 to 10:1.

80. A nanoemulsion according to claim 79, wherein said at least one oily phase and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oily phase to the amount of said at least one amphiphilic lipid ranges from 1.2:1 to 10:1.

81. A nanoemulsion according to claim 80, wherein said at least one oily phase and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oily phase to the amount of said at least one amphiphilic lipid ranges from 1.5:1 to 6:1.

82. A nanoemulsion according to claim 81, wherein said at least one oily phase and said at least one amphiphilic lipid are present in amounts wherein the weight ratio of the amount of said at least one oily phase to the amount of said at least one amphiphilic lipid ranges from 2:1 to 5:1.

83. A nanoemulsion according to claim 54, wherein said anions derived from organic acids are chosen from acetate and lactate.

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